

GOVERNMENT OF INDIA.
DEPARTMENT OF REVENUE AND AGRICULTURE.

Extract from the Proceedings of the Government of India in the Department of Revenue and Agriculture (Practical Arts and Museums), No. 18—34-3, dated 24th March 1902.

RESOLUTION.

The following papers regarding the Scientific and Technical Department of the Imperial Institute, London, are published for general information:—

From J. B. Fuller, Esq., C. I. E., Secretary to the Government of India in the Department of Revenue and Agriculture to all Local Governments and Administrations; Circular No. 17—34-2, dated Calcutta, the 24th March 1902.

1. In paragraph 12 of Sir E. Buck's Circular Resolution No. 59—73, dated the 3rd October 1893, which explained the objects and constitution of the Imperial Institute, attention was drawn to the opportunities for research offered by the Scientific Department of the Institute.

2. I am now directed to forward a memorandum on the Scientific and Technical Department of the Institute which has been published with the view of securing a fuller utilization than at present, of the special facilities offered by the Department, and to request that, with the permission of—, publicity may be given to the memorandum, and copies distributed to Chambers of Commerce, Industrial or Agricultural Associations and other public bodies.

3. All correspondence in connection with applications for investigation should continue as heretofore to be addressed to the Reporter on Economic Products, Indian Museum, Calcutta.

THE SCIENTIFIC AND TECHNICAL DEPARTMENT OF THE IMPERIAL INSTITUTE.

1. The Executive Council of the Imperial Institute desire to direct attention to the character of the work now carried on in an important Department of the Institute, which has been for several years in operation, and has, of late, undergone considerable extension.

The Scientific and Technical Department of the Institute has been established to acquire information by special enquiries and by experimental research, technical trials and commercial valuation regarding new or little known natural or manufactured products of the various Colonies and Dependencies of the British Empire and of foreign countries, and also regarding known products procurable from new sources, and local products of manufacture which it is desired to export. This work is carried out with a view to the creation of new openings in trade, or the promotion of industrial developments.

2. In an extensive and well-equipped series of Research Laboratories, a numerous staff of skilled Chemists, under the direction of Professor Wyndham R. Dunstan, M.A., F.R.S., carry out the investigation of the chemical constitution and properties of new dye-stuffs, tanning materials, seeds and food-stuffs, oils, gums and resins, fibres, timbers, medicinal plants and products; animal products, minerals and ores, soils, cements, and various other products, with a view to their commercial utilization. Whenever necessary these materials are submitted to special scientific experts, by whom they are made the subjects of particular investigation or practical tests. Reports are also obtained from technical or trade-experts in regard to the probable commercial or industrial value of any such products, while full information is collected from official or other trustworthy sources regarding the probable extent and cost of available supplies.

3. Appended to this Memorandum is a paper giving illustrations of work of the above nature, which has been carried out for India and the Colonies in the Scientific and Technical Department of the Institute. It will be seen that this work is quite distinct in character from the services rendered respectively by the Commercial Information Office of the Board of Trade, and by the Botanical Establishment of the Royal Gardens, Kew. But the work of this Department of the Institute may indeed be regarded as an important adjunct to that accomplished by those Government Establishments, especially in furnishing the results of chemical investigation and technical trials which most generally determine the commercial value of natural products.

4. All materials requiring scientific or technical examination, or commercial valuation, should be submitted to the Institute for examination either by, or through, the Foreign Office, the Colonial Office, the India Office, or the Board of Trade, or through the Colonial or Indian Government Authorities. Requests for the examination of such materials may also be submitted by Public Commercial Bodies and Institutions of the respective Colonies and Dependencies, or by the Representatives of H. M. Government in foreign countries.

5. Reports on the results of enquiries or experimental investigations are supplied, as a rule, without charge, when applied for as above directed, but, should special expenses be incurred in connection with any such reports, or with the commercial valuation of particular materials or manufactured products, which the Council do not consider themselves warranted in meeting, a statement of such actual outlays will be furnished, for repayment, when the reports are supplied to the Public Bodies or Institutions concerned. Should an investigation or report of exceptional character be asked for by a Government Department, an estimate of the attendant expenses will be submitted, with a view to ascertain whether authority for such expenditure will be given.

[The attention of those who are concerned in finding new markets for Indian and Colonial products may be also directed to the collections of products exhibited in the Galleries of the Imperial Institute, illustrating the material resources of the Colonies and Dependencies of the Empire. They represent upwards of forty different countries, and are open free to the public. On application to the Commercial Information Office of the Institute, or to the Curators of individual Sections of the Collections, all available information is furnished regarding any particular product exhibited in the Galleries; and samples are supplied in special instances to merchants and others. Enquiries as to possible supplies (and their probable cost) in any specific case, or for other special information desired, are dealt with promptly, if made in writing to the Honorary Director of the Institute. The assistance of the Government Authorities of the Colonies is invoked to insure that the Collections of natural and manufactured products, and full information regarding their contents, shall be maintained up to the day].

July, 1901.

F. A. ABEL, *Hon. Director and Secretary*
of the Imperial Institute.

STAFF OF THE SCIENTIFIC AND TECHNICAL DEPARTMENT OF THE
IMPERIAL INSTITUTE.
1901.

Director.

Professor Wyndham R. Dunstan, M.A., F.R.S., Sec. C.S.

Assistant Chemists.

Mr. T. A. Henry, D.Sc., Lond.,
(*Salter's Company's Research Fellow*).
Mr. Ernest Goulding, B.Sc., Lond.
Mr. Harold Brown.

Mr. E. A. Andrews.
Mr. G. S. Blake, Assoc. R. C. S.
Mr. J. G. W. Brooker.

Special Assistant Chemists.

Dr. F. Lühn, Ph.D., Heidelberg. | Mr. H. H. Robinson, M.A., Oxon.
Attached to this department is a staff of scientific, technical and commercial referees.

ILLUSTRATIONS OF SCIENTIFIC AND TECHNICAL REPORTS
MADE SINCE 1896,

chiefly at the request of the Indian and Colonial Governments, based upon experimental investigations conducted in the Laboratories of the Department, and on the opinions of scientific, technical, and commercial referees.

INDIA.

(For further particulars see "Parliamentary Return of the Imperial Institute, Indian Section, August, 1899." Eyre & Spottiswoode, London).

Aconites.

A chemical examination has been made of the constituents of the principal varieties of aconite indigenous to India. The medicinally active constituent has been examined, its chemical composition and properties defined and its exact medicinal action ascertained. Several papers on the subject have been already published (see Addendum) relating to *Aconitum ferox*, *Aconitum heterophyllum*, and *Aconitum Fischeri*.

Tobacco.

A consignment of specially prepared tobacco was sent from Tirhoot for chemical analysis and commercial valuation with a view to the satisfactory sale of the consignment. The results of its analysis, together with a sample of the tobacco, were submitted to a number of tobacco manufacturers and brokers and the consignment was afterwards sold at a fair price.

Arrangements are now being made for a systematic examination of the different varieties of tobacco grown in India with a view to the improvement of certain growths.

Opium.

A detailed enquiry is being conducted as to the quality of the opium produced in the different opium districts of India. It originated in a request for a chemical examination of opium specially grown in Jeypore, which proved to contain much less morphine and far more narcotine than is usually present in the best Turkey opium medicinally employed in this country.

The same peculiarity is shown by most of the opium produced in India and the question is being fully investigated with the view of ascertaining the cause of this difference in Indian as compared with Turkey opium and the possibility of improving the Indian product.

If Indian opium could be produced richer in morphine, there is no reason why it should not be medicinally employed in Europe, instead of Turkey opium; and also used as a source of morphine and other alkaloids.